

the zoöspore-formation in *Microthamnion* is most like that of *Myxonema* (*Stigoclonium*), and *Gongrosira* and *Leptosira* may well be placed (as by Blackman and Tansley) in the Trentepohliaceae.

In the matter of nomenclature, the author has shown an open-minded regard for priority, though one may wonder why, while taking up *Choaspis* S. F. Gray for *Sirogonium* Kütz., he does not also revive *Agardhia* of the same work in place of *Mougeotia*. An unusual degree of familiarity with recent American work is evident, and the numerous references to such literature are among many good features which will commend this book to American students and teachers.

TRACY E. HAZEN.

The Teaching of Biology in the Secondary School*

The volume recently issued under the above title is one of the American Teachers Series, edited by Professor James E. Russell, Dean of the Teachers College, Columbia University. The two authors have charge, respectively, of the botanical and zoölogical work in the Teachers College and the present volume consists of two parts, the first on "The Teaching of Botany and of Nature Study," written by Professor Lloyd, and the second on "The Teaching of Zoölogy, including Human Physiology, in the Secondary School," written by Professor Bigelow. As is sufficiently indicated in the titles, the work is not a laboratory manual for the student, but aims to cover the much less occupied field of a manual for teachers. In fact, on the botanical side, "The Teaching Botanist," of Professor Ganong, is the only book known to the reviewer which may fairly be compared with it, a comparison which is invited, not only by the general similarity in the scope of the two works, but also by Professor Lloyd's frequent citation of "The Teaching Botanist" and by the association of Professors Ganong and Lloyd on the committee appointed by the Society for Plant Morphology and Physiology to consider the formulation of a standard college entrance option in botany. Whatever

* Lloyd, F. E., & Bigelow, M. A. The Teaching of Biology in the Secondary School. 8 vo. Pp. i-viii + 1-491. New York, Longmans, Green and Co. 1904. Price, \$1.50.

may be the points of agreement in the general spirit of these two manuals for botanical teachers, there is in this newer effort by another vigorous, independent and resourceful teacher, enough of difference in the points of attack and in the development of the various themes to make it a very welcome and helpful addition to the working library of any one engaged in botanical instruction, whether in secondary school or in college. Professor Lloyd's part of the volume, which we assume to be the part that will be of especial interest to readers of *TORREYA*, is a philosophical essay on the value and objects of botanical teaching and on the principles determining the content of a botanical course, followed by a detailed discussion of the course in botany for the high school and by suggestions as to the laboratory, its equipment, and materials for study and for demonstration. References to the literature of the subject are numerous throughout, and a final chapter is devoted to a summary of the literature most important and useful to teachers and students.

The animus of Professor Lloyd's essays is well summed up in the following passage from the prefatory note: "It is to bring the student face to face with these problems [in connection with the teaching of botany] and to prepare him for their intelligent consideration, that this book has been written. Whether the solutions offered for such problems as have been discussed merit acceptance is of secondary moment, if in the use of these pages the student is stimulated to study carefully the subject of botany, not alone from the point of view of the scientist, but also from that of the educator. If the essay excites to 'self-activity, which is the best effect of any book' its chief use will be accomplished."

The author writes as one who is fully confident of the essential dignity and of the educational and economic value of botanical studies and as one who would help to rescue the subject from certain popular misconceptions and to place it on its proper footing in the public esteem. Botanical science, he says, "touches upon human interests fundamentally at every point, and these are of such a kind that to be ignorant of their relations to botany is to be robbed of that knowledge which throws light upon literature, the arts and manufactures, and upon conditions under

which alone the human race may prosper. * * * A plan of general education, therefore, which neglects botany neglects one of the subjects which Herbert Spencer describes as having 'transcendent value.' * *

Professor Lloyd's suggestive chapter on "Nature Study" is especially pertinent at this time when Professor Armstrong of the Mosely Educational Commission, sent from Great Britain to study the American school system, has remarked, perhaps with more justification than he has said some other things, that "The nature study lessons I witnessed, when not specifically botanical or zoölogical and scientific in character, were eminently superficial and worthless." † The authors of "The Teaching of Biology" would doubtless reply that any nature study lessons that are not "scientific in character" are of necessity "worthless" and that all nature study lessons that deserve the name, however simple and elementary, should, of equal necessity, be eminently "scientific in character." The "apparent failure of nature study in some quarters" would be referred by them to the inefficiency of the teachers and not to any lack of adaptability in the character of the subject matter. And it is to incite thought, discrimination and "self-activity" on the part of those who are charged with developing a scientific attitude of mind in the youth of our schools that "The Teaching of Biology" has been written. We predict that the book is destined to have an important influence in the direction desired by its authors.

MARSHALL A. HOWE.

NEWS ITEMS

Mr. Stewart H. Burnham is now a graduate assistant in botany in Cornell University.

Mr. E. W. D. Holway has been appointed assistant professor of botany in the University of Minnesota.

Mr. B. M. Everhart, well known by his association with Mr. J. B. Ellis in studies of the American fungi died at West Chester, Pennsylvania, on September 22, at the age of eighty-seven years.

* P. 73.

† Science II, 20: 132. 29 JI. 1904.